Subject: MATERIALS SCIENCE COLLOQUIUM, Robert C Haddon, University of California at Riverside, "Advances in the Chemistry and Application of Carbon Nanotubes", Thursday, February 7, 2008, 11:00 a.m., Building 212, Room A-157, John Schlueter
From: Marlene Metz <metz@anl.gov>
Date: Tue, 22 Jan 2008 09:24:45 -0600
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MATERIALS SCIENCE COLLOQUIUM

SPEAKER: Robert C Haddon, University of California at Riverside

TITLE: "Advances in the Chemistry and Application of Carbon Nanotubes"

DATE: Thursday, February 7, 2008

TIME: 11:00 a.m.

PLACE: Building 212, Room A-157

HOST: John Schlueter

Refreshments will be available at 10:45 a.m

Abstract:

Carbon nanotubes were initially the province of scientists interested in their unique physical properties, but interest has begun to focus on their chemistry. Functionalization has been demonstrated at the ends and at the sidewalls of carbon nanotubes, and in the case of sidewall chemistry there is a drastic modification of the band structure. Nevertheless, it seems fair to say that the real opportunities for carbon nanotube chemistry still lie in the future. There is probably no other material with so much potential, but which offers so many challenges - from the preparation of the carbon nanotubes, their purification from catalyst residues, carbon nanoparticles and amorphous carbon, their separation according to length, diameter and chirality into semiconducing and metallic nanotubes and finally to the in depth understanding and control of their formation and chemistry. I will discuss our recent work on the synthesis, purification, characterization and chemistry and applications of single-walled carbon nanotubes, including their use as detectors, sensors, fuel cell components and thermal interface materials.
